

Product Brief

Sense2Go2 development kit

24 GHz sensor development kit utilizing Infineon XMC4200 32-bit ARM® Cortex®-M4 MCU series

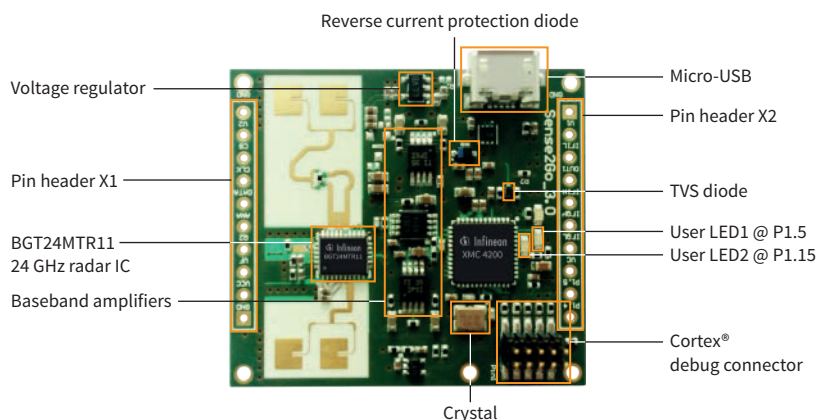
This development kit allows the user to implement and test several sensing applications at the 24 GHz ISM band such as Doppler based movement detection, Doppler based direction of movement detection, Doppler based speed estimation and Frequency-Modulated Continuous Wave Radar (FMCW) based distance measurements of stationary targets. The kit consists of the BGT24MTR11 transceiver MMIC and a XMC4200 32-bit ARM® Cortex®-M4 for signal processing and communication via USB.

The CPU is already preprogrammed using Infineon's DAVE™ development tool. The module also comes bundled with a stand-alone firmware for movement detection without the aid of a PC, so this platform is a good starting point for your own applications. It samples up to 2 IF channels of the transceiver chipset and communicates via USB interface to a connected PC. A provided PC application GUI (Windows XP/Vista/7/8) can be used to display and analyze acquired data in time and frequency domain.

Applications

- > Indoor/outdoor smart lighting
- > Intruder alarm
- > Motion detectors
- > Intelligent door openers

Sense2Go2 development kit – main components



* Usage of the Doppler and FMCW FW and SW requires agreeing to Infineon's user's agreement and licensing terms.

Features

- > Capability to detect motion, speed and direction of movement (approaching or retreating) and software based FMCW modulation scheme for distance measurement and tracking
- > Very small form-factor (4 cm × 3.5 cm) 24 GHz ISM band module that can be used as a development kit size or mounted as a daughter board in a system.
- > BGT24MTR11 – 24 GHz highly integrated RF MMIC
- > XMC4200 ARM® Cortex®-M4 – 32-bit industrial microcontroller
- > Debug over cortex 10 pin debug connector
- > Low power mode
- > Integrated patch antenna

Contents of the kit includes

- > User's Manual
- > SW GUI to operate kit
- > Doppler FW and SW*
- > Schematic and Bill-of-Materials of Module
- > Micro USB-to-USB Cable (3")

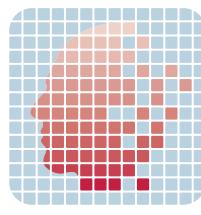
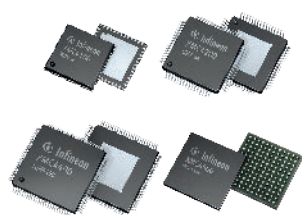
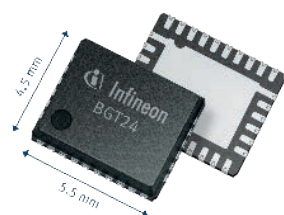
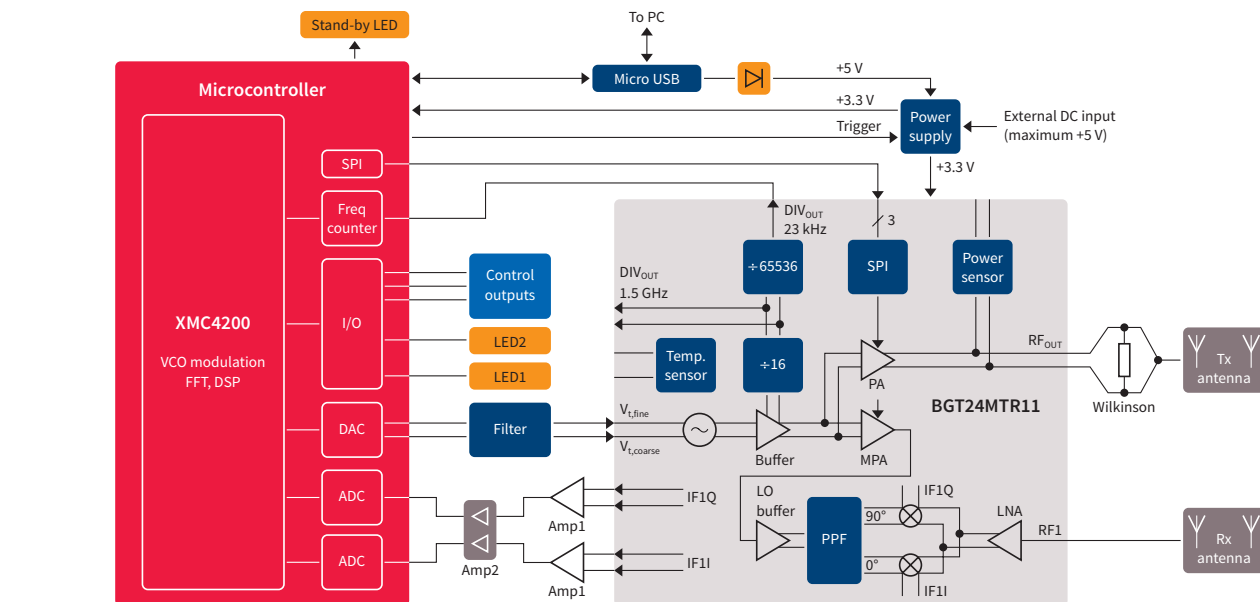
Additional options to Add-On

- > FMCW FW and SW* with separate User's Manual for FMCW
- > J-Link debugger for ARM Cortex M4 (OPN: KIT_XMC_LINK_SEGGER_V1)

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Sense2Go2 block diagram



Details

- > www.infineon.com/sense2go2
- > www.infineon.com/xmc
- > www.infineon.com/dave

Product summary

Type	Description	Ordering code (OPN)
BGT24MTR11	24 GHz radar chip with 1 transmitter and 1 receiver in PG-VQFN-32-9 package	BGT24MTR11E6327XUMA1
Sense2Go2	Development kit	DEMO SENSE2GO2
XMC4200-Q48K256 AB	80 MHz ARM® Cortex®-M4 with high resolution PWM unit, 256 kB flash, 40 kB RAM, rich analog-mixed signal, timer/PWM and communication peripherals in PG-VQFN-48	XMC4200Q48K256ABXUMA1
BAS3010A-03W	Medium power schottky diode for high efficiency DC/DC conversion, fast switching, protection and clamping applications	BAS3010A03WE6327HTSA1
ESD8V0L2B-03L	Low capacitance TVS diode ESD / transient protection of high-speed data lines in a small form factor of 1.0 x 0.6 x 0.4 mm	ESD8V0L2B03LE6327XTMA1

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